CLAIMS

What is claimed is:

1.   A method for performing initial cell search, the method comprising:

performing an exhaustive initial cell search on stored frequencies;

performing a non-exhaustive initial cell search on initial frequencies where no cell is found searching the stored frequencies; and

performing an exhaustive initial cell search on initial frequencies where no cell is found searching the initial frequencies wherein a hit to an unsuitable cell was detected when said initial frequencies were searched non-exhaustively.

2.   The method of claim 1 wherein the exhaustive initial cell search includes the following steps:

maintaining a list of any chip-offset locations that lead to unsuitable cells; and

generating a mask for said chip-offset locations so that subsequent step 1 processing will not detect any primary synchronization codes (PSCs) in the masked chip-offset locations.

3.   The method of claim 2 wherein the chip-offset locations that lead to unsuitable cells are obtained after step 3 processing by reading a detected cell's broadcast channel (BCH) to identify the public land mobile network identifier (PLMN ID) of the detected cell.

4.   The method of claim 2 wherein the chip-offset locations that lead to unsuitable cells are maintained in a rejected chip-offset list.

5.   The method of claim 2 wherein the mask that is generated includes five chips before and after the chip-offset that led to the rejected PSC.

6. A method for performing an exhaustive initial cell search, the method comprising the steps of:

performing step 1 of initial cell search wherein any rejected chip-offsets are masked so that any primary synchronization codes (PSCs) located within the rejected chip-offsets are excluded;

decreasing the gain setting where no detection is made while performing step 1 initial cell search;

running step 2 of initial cell search where there is a detection while performing step 1 of initial cell search;

running step 3 of initial cell search where there is a detection while performing step 2 of initial cell search;

reading the broadcast channel of a cell to obtain the public land mobile network identifier (PLMN ID) detected while performing step 3 of initial cell search;

determining whether the detected cell is unsuitable based on the PLMN ID of the detected cell; and

adding to a rejected chip-offset list, the chip-offset of the PSC wherein the PSC led to the detected cell and the detected cell ID is unsuitable.

7. The method of claim 6 wherein rejected cells are associated with the cell's code group so that rejected code groups are detected in step 2 thereby avoiding the performance of step 3 processing on what will lead to an unsuitable cell.

8. A wireless transmit/receive unit (WTRU) comprising:

a memory configured for storing initial and stored frequencies; and

a processor configured to perform initial cell search wherein chip-offset locations leading to unsuitable cells are masked so that said chip-offset locations are not detected when running subsequent initial cell searches at the same frequency.

9.   The WTRU of claim 8 wherein the processor is further configured to perform an exhaustive initial cell search on stored frequencies; perform a non-exhaustive initial cell search on initial frequencies where no cell is found searching the stored frequencies; and perform an exhaustive initial cell search on initial frequencies where no cell is found searching the initial frequencies wherein a hit to an unsuitable cell was detected when said initial frequencies were searched non-exhaustively.

10.   The WTRU of claim 9 wherein when the processor is performing an exhaustive cell search, the processor maintains a list of any chip-offset locations that lead to unsuitable cells and generates a mask for said chip-offset locations so that primary synchronization codes (PSCs) in the masked chip-offset locations are not detected.

11.   The WTRU of claim 10 wherein the processor is configured to associate rejected cells to a code group number so that rejected code groups are detected in step 2 of an exhaustive initial cell search thereby avoiding the performance of step 3 processing on what will lead to an unsuitable cell.